

## **Ice Cream Company Co-Owner**

### Performance Task

### **Introduction**

Schools want to have healthy food for their students. It is also important the the healthy food tastes good. All the foods in the cafeteria must be approved by the School Board. You and your team are creating a healthier ice cream and are hoping the school board will let you sell it in school cafeterias.

### **Big Idea / Essential Questions**

#### **Big Idea**

- Technological design is a creative process that anyone can do which may result in new innovations.
- Humans have to be able to use technology to solve problems and improve products we use in our daily lives.
- Data can be modeled and used to make inferences.

#### **Essential Questions**

- How does creativity contribute to innovation?
- How do our wants and needs affect the products that are made?
- How can data be organized and represented to provide insight into the relationship between quantities?

### **G.R.A.S.P.**

#### **Goal**

Your goal is to create a new flavor of ice cream that is tasty and healthier than regular ice cream.

#### **Role**

You and your team are ice cream experts. You must use what you know to make a new ice cream for schools that is tasty and healthy.

#### **Audience**

Your audience is the members of the school board. The members of the school board will need to be convinced that your product is a healthy alternative to the current snacks/desserts. They will also need to know that it is tasty and will be liked by students.

#### **Situation**

Your company wants to create a new healthy flavor of ice cream that students can eat in their cafeterias. This ice cream must look and taste good so that students want to eat it. But, the school board will not let you sell it in the cafeteria unless it is healthy. Your challenge is to present your new healthy ice cream flavor to the school board. You must convince them it is a

good idea. Help them understand the ingredients and why it is better than regular ice cream. Also include the steps that you have taken as you made the ice cream.


## Products

### 1. Ice Cream Investigation


You and your team will experiment with different ingredients to come up with a healthier version of ice cream. You will start by thinking about what is in regular ice cream. Then, you will select some ingredients that you believe are healthier. You will make ice cream with these healthier ingredients to see how they change the taste and texture of the ice cream. This investigation will help you decide what ingredients you will use for your new healthy ice cream flavor. Be sure to write a summary of your investigation, including what you tested, how it turned out, and the ingredients you will use for your new ice cream flavor.

For an easy homemade recipe to work from, see the picture below.

Click [here](#) to visit the website this recipe comes from.



## *Easy 2-Ingredient Homemade Ice Cream without a Machine*




*Ingredients:*

- 2 cups heavy cream
- 1 (14 oz.) Eagle Brand® Sweetened Condensed Milk
- Extra toppings, mix-ins, flavor extracts as desired

*Directions:*

1. Using a stand mixer on high speed, whip heavy cream to stiff peaks in large bowl. In a separate bowl, stir together sweetened condensed milk and any extra toppings, mix-ins, or flavorings as desired, such as chocolate chips or vanilla extract. Fold in whipped cream.
2. Pour into a 2-quart container and cover. Freeze 8 hours or until firm. Store in freezer.

 **PRINT RECIPE**

- What ingredients are usually used to make ice cream?
- What can be added to ice cream to make it tasty and healthier?
- What ingredients can be swapped out for healthier ones without changing the ice cream too much?

### Ice Cream Investigation - Ice Cream Company Co-Owner

Achievement Levels	1	2	3	4
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Achievement Levels	1	2	3	4
<b>Research</b> (x1)	Product shows that little research was done on ingredients and what makes them healthy or not.	Product shows that some research was done on ingredients and what makes them healthy or not.	Product shows that research was done on ingredients and what makes them healthy or not.	Product shows that thorough research was done on ingredients and what makes them healthy or not.
<b>Testing in the Engineering</b> (x1)	Tests were designed and carried out in a way that did not help determine which ingredients should be used to make a new, healthier ice cream.	Tests were designed and carried out somewhat effectively to determine which ingredients should be used to make a new, healthier ice cream.	Tests were designed and carried out mostly effectively to determine which ingredients should be used to make a new, healthier ice cream.	Tests were designed and carried out effectively to determine which ingredients should be used to make a new, healthier ice cream.
<b>Summary</b> (x1)	A summary was written that minimally explained the investigation, its results, and list the ingredients that will be used for the new, healthier ice cream.	A summary was written that partially explained the investigation, its results, and list the ingredients that will be used for the new, healthier ice cream.	A summary was written to explain the investigation, its results, and list the ingredients that will be used for the new, healthier ice cream.	A thorough summary was written to explain the investigation, its results, and list the ingredients that will be used for the new, healthier ice cream.
<b>Engineering and Design</b> (x1)	Product shows that student(s) thought very little about what process, ingredients and flavors to use for the ice cream.	Product shows that student(s) partially thought about what process, ingredients and flavors to use for the ice cream.	Product shows that student(s) thought about what process, ingredients and flavors to use for the ice cream.	Product shows that student(s) put a lot of thought into what process, ingredients and flavors to use for the new ice cream.

## 2. Multimedia Presentation

Develop and present a presentation for your audience that describes the ice cream production process. You may want to talk about how different flavors are made. Also, how can the ice cream be made healthier through the production process.

How many ounces will a serving size be? How big is the container the ice cream will come in? How many servings will each container have? Showing this math in the presentation will help school cafeterias decide how many containers of your ice cream they should purchase.

Be sure to use pictures and video to help describe the process so it is engaging for your audience.

- How is ice cream made?
- How are different flavors of ice cream created?
- What can you do differently when you make your ice cream to make sure it's healthier?
- What flavor of ice cream will you choose for the school cafeteria and why?

### Multimedia Presentation - Ice Cream Company Co-Owner

Achievement Levels	1	2	3	4
<b>Content</b> (x1)	Product shows little understanding of the ice cream business and how ice cream can be healthier.	Product shows some understanding of the ice cream business and how ice cream can be healthier.	Product shows adequate understanding of the ice cream business and how ice cream can be healthier.	Product shows strong understanding of the ice cream business and how ice cream can be healthier.
<b>Writing Conventions</b> (x1)	Product has many spelling, grammar or punctuation errors.	Product has some spelling, grammar or punctuation errors.	Product has a few spelling, grammar or punctuation errors.	Product is free of spelling, grammar or punctuation errors.
<b>Supporting Materials</b> (x1)	Very few materials used in the product support the information being presented.	Some materials used in the product support the information being presented.	Most materials used in the product support the information being presented.	All materials used in the product strongly support the information being presented.
<b>Research</b> (x1)	Product shows that minimal research was done around the topic.	Product shows that some research was done around the topic.	Product shows that adequate research was done around the topic.	Product shows that thorough research was done around the topic.
<b>Problem Solving</b> (x1)	Product demonstrates little problem solving skills and creative thinking.	Product demonstrates some use of problem solving and creative thinking.	Product demonstrates adequate use of problem solving and creative thinking.	Product demonstrates excellent use of problem solving and creative thinking.

Achievement Levels	1	2	3	4
Engineering Design (x1)	Product shows that student(s) thought very little about what process, ingredients and flavors to use for the ice cream.	Product shows that student(s) partially thought about what process, ingredients and flavors to use for the ice cream.	Product shows that student(s) thought about what process, ingredients and flavors to use for the ice cream.	Product shows that student(s) put a lot of thought into what process, ingredients and flavors to use for the new ice cream.
Delivery (x1)	Presenters make little eye contact and could improve upon posture and/or volume.	Presenters make some eye contact, have adequate posture and volume during some parts of the presentation.	Presenter makes eye contact, has good posture and adequate volume throughout most of the presentation.	Presenter makes very good eye contact, has excellent posture and volume throughout the whole presentation.

### 3. Graph & Article

You will need to investigate four different brands of ice cream. Be sure to choose the same flavor for each brand. Create a Bar Graph that shows information for each brand in terms of calories, fats, proteins, and carbohydrates. Based upon your research, decide which brand is the healthiest of the four and write a short article that explains your decision. Remember to use information from your graph to support your position.

- What are some brands of ice cream and their nutritional facts?
- Which brand is the healthiest?
- What information in our graph helps you know it is the healthiest?

#### Graph - Ice Cream Company Co-Owner

Achievement Levels	1	2	3	4
Writing Conventions (x1)	There are many errors in grammar, punctuation or spelling.	There are some errors in grammar, punctuation or spelling.	There are a few errors in grammar, punctuation or spelling.	There are no errors in grammar, punctuation or spelling.
Supporting Article (x1)	Product tells which ice cream is the healthiest and minimally supports the opinion with evidence from the graph.	Product tells which ice cream is the healthiest and partially supports the opinion with evidence from the graph.	Product tells which ice cream is the healthiest and adequately supports the opinion with evidence from the graph.	Product tells which ice cream is the healthiest and strongly supports the opinion with evidence from the graph.
Research (x1)	Product shows that little research was conducted around the topic.	Product shows that some research was conducted around the topic.	Product shows that adequate research was conducted around the topic.	Product shows that thorough research was conducted around the topic.
Bar Graph (x1)	Graph has few required parts: title, axis labels, category labels, space between bars, and a scale.	Graph has some required parts: title, axis labels, category labels, space between bars, and a scale.	Graph has most required parts: title, axis labels, category labels, space between bars, and a scale.	Graph has all required parts: title, axis labels, category labels, space between bars, and a scale.

### 4. School Newspaper Article

Write an article for the school newspaper. This article should talk about your new healthy ice cream. It should tell the flavor of the ice cream and why you chose this flavor. You should also explain how ice cream is made and what ingredients you are using in yours that can be healthier than other brands of ice cream. This article should let the students know that your ice cream is tasty and why it is healthier than regular ice cream.

- How is ice cream made?
- What flavor of ice cream will you choose for the school cafeteria and why?
- Why is your ice cream healthier than other options out there?

#### School Newspaper Article - Ice Cream Company Co-Owner

Achievement Levels	1	2	3	4
Content	Article gives little explanation of	Article gives some explanation of	Article gives an adequate explanation of the new ice	Article gives a detailed

<b>Achievement Levels</b>	the new ice cream flavor and its nutritional facts. <b>1</b>	the new ice cream flavor and its nutritional facts. <b>2</b>	cream flavor and its nutritional facts. <b>3</b>	explanation of the new ice cream flavor and its nutritional facts. <b>4</b>
<b>Writing Conventions</b> (x1)	Many errors in grammar or spelling.	Some errors in grammar or spelling.	Few errors in grammar or spelling.	No errors in grammar or spelling.
<b>Layout</b> (x1)	Article is unorganized and has little of the following: a headline, an introduction, supporting facts, details and a conclusion.	Article is somewhat organized with some of the following: a headline, an introduction, supporting facts, details and a conclusion.	Article is organized with most of the following: a headline, an introduction, supporting facts, details and a conclusion.	Article is very well organized with all of the following: a headline, an introduction, supporting facts, details and a conclusion.
<b>Research</b> (x1)	Product shows that minimal research was done around the topic.	Product shows that some research was done around the topic.	Product shows that adequate research was done around the topic.	Product shows that thorough research was done around the topic.
<b>Problem Solving</b> (x1)	Product demonstrates little use of problem solving skills and creative thinking.	Product demonstrates some use of problem solving and creative thinking.	Product demonstrates adequate use of problem solving and creative thinking.	Product demonstrates excellent use of problem solving and creative thinking.
<b>Engineering and Design</b> (x1)	Product shows that student(s) thought very little about what process, ingredients and flavors to use for the ice cream.	Product shows that student(s) partially thought about what process, ingredients and flavors to use for the ice cream.	Product shows that student(s) thought about what process, ingredients and flavors to use for the ice cream.	Product shows that student(s) put a lot of thought into what process, ingredients and flavors to use for the new ice cream.

## 5. Poster

Create a poster to highlight the great reasons to buy and eat this ice cream. The poster will be placed in school cafeterias. The poster should contain facts about the ice cream and it's flavor. It should also have pictures showing the process that makes it healthy. The picture should contain captions explaining each step shown on the poster.

- What are some facts about your ice cream and its flavor?
- What are some of the health benefits of this ice cream?
- How can you make sure that your poster catches the students' attention?

### Poster - Ice Cream Company Co-Owner

<b>Achievement Levels</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
<b>Writing Conventions</b> (x1)	There are many errors in grammar, punctuation or spelling.	There are some errors in grammar, punctuation or spelling.	There are a few errors in grammar, punctuation or spelling.	There are no errors in grammar, punctuation or spelling.
<b>Focus</b> (x1)	Graphics and captions minimally support the message that your new flavor of ice cream is healthy and tasty.	Graphics and captions partially support the message that your new flavor of ice cream is healthy and tasty.	Graphics and captions support the message that your new flavor of ice cream is healthy and tasty.	Graphics and captions strongly support the message that your new flavor of ice cream is healthy and tasty.
<b>Content</b> (x1)	Product does little to describe the ice cream, facts about nutrition, and why people should buy it.	Product partially describes the ice cream, facts about nutrition, and why people should buy it.	Product describes the ice cream, facts about nutrition, and why people should buy it.	Product expertly describes the ice cream, facts about nutrition, and why people should buy it.
<b>Organization</b> (x1)	The important information, details and visuals are unorganized on the poster.	The important information, details and visuals are somewhat organized on the poster.	The important information, details and visuals are adequately organized on the poster.	The important information, details and visuals are very well organized on the poster.
<b>Engineering Design</b> (x1)	Product shows that student(s) thought very little about what process, ingredients and flavors to use for the ice cream.	Product shows that student(s) partially thought about what process, ingredients and flavors to use for the ice cream.	Product shows that student(s) thought about what process, ingredients and flavors to use for the ice cream.	Product shows that student(s) put a lot of thought into what process, ingredients and flavors to use for the new ice cream.